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(54) **INTEGRATED HIGH PERFORMANCE
LATERAL SCHOTTKY DIODE**

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(57) **ABSTRACT**

A diode includes a two-dimensional electron gas formed in
a heterojunction defined between first and second semicon-
ductor material layers. First and second layers of insulating
material are disposed on the second semiconductor layer.
First and second electrodes are disposed in the second layer
of insulating material. The first electrode is coupled to the
second semiconductor material layer. The second electrode
is coupled to the heterojunction. Third and fourth layers of
insulating material are disposed on the second insulating
layer. A first via is disposed in the fourth layer of insulating
material and coupled to the second electrode. A first field
plate is disposed in the fourth layer of insulating material.
An edge of the first field plate laterally extends towards first
via. The first via is separated from an edge of the first via.
The first field plate is coupled to the first electrode.

14 Claims, 7 Drawing Sheets

